

PTO 97-4811 ✓

CY=JP DATE=19931102 KIND=A  
PN=05285252

A DISK DISPLAY TYPE SLOT MACHINE  
[Enban hyōji gata surotto mashin]

Yoshimi Kaku, et al.

UNITED STATES PATENT AND TRADEMARK OFFICE  
Washington, D.C. August 1997

**Best Available Copy**

Translated by: Diplomatic Language Services, Inc.

PUBLICATION COUNTRY	(19) : JP
DOCUMENT NUMBER	(11) : 05285252
DOCUMENT KIND	(12) : A
	(13) :
PUBLICATION DATE	(43) : 19931102
PUBLICATION DATE	(45) :
APPLICATION NUMBER	(21) : 04085359
APPLICATION DATE	(22) : 19920407
ADDITION TO	(61) :
INTERNATIONAL CLASSIFICATION	(51) : A63F 5/04
DOMESTIC CLASSIFICATION	(52) :
PRIORITY COUNTRY	(33) :
PRIORITY NUMBER	(31) :
PRIORITY DATE	(32) :
INVENTORS	(72) : KAKU, YOSHIMI; MOTOI, TAKASHI
APPLICANT	(71) : KAKU, YOSHIMI; MOTOI, TAKASHI
TITLE	(54) : A DISK DISPLAY TYPE SLOT MACHINE
FOREIGN TITLE	[54A] : ENBAN HYŌJI GATA SUROOTTO MASHIN

## SPECIFICATION

### Claims

(Claim 1) A disk display type slot machine having a start button and coin receiving dish, said disk display type slot machine characterized by the fact that two or three donut-shaped disks that are in a concentric relation and face the player are constituted so as to be able to rotate independently and to be stopped independently by pressing stop buttons, a lamp is placed in the center of the disks so as to be able to flash independently, each disk is divided in the radial direction so as to form an odd number of cells, and an odd number of patterns composed of numbers, letters, or pictures on each cell are displayed in a fixed order in mutually opposing directions for the cells on the outside disk and cells on the inside disk.

### Detailed Description of the Invention

(Industrial Field of Application)

The present invention concerns a disk display type slot machine.

(Prior Art)

Conventional slot machines are constituted so that three drums are made to rotate independently by inserting a coin and operating a lever, and are stopped separately when the player presses a stop button. Three patterns which display numbers, characters, or pictures on each drum part are arranged in an upper stage, middle stage, and lower stage, and a total of nine patterns can be seen from the front panel of the machine. A disk type slot machine, in which the patterns are displayed

on a flat surface, has not existed.

Moreover, in conventional slot machines, winning points obtained by a combination of numbers, characters, or pictures are awarded based on three combinations when three patterns in the horizontal direction are stopped with the same numbers, characters, or pictures aligned so as to be displayed, or in accordance with two combinations where three patterns in a diagonal direction from upper left to lower right or in a diagonal direction from upper right to lower left are stopped with the same numbers, characters, or pictures aligned so as to be displayed, providing five winning combination chances.

(Problems to be Solved by the Invention)

In conventional slot machines, the winning chance is limited to the aforesaid five combinations, the game is finished quickly, and the level of gambling with large quantities of winning points and large quantities of losing points is high.

The present invention was produced in order to eliminate these problems and has the purpose of increasing the winning point chances to a total of at least 14 combinations, by increasing to seven combinations the chance of obtaining winning points, when, due to the players pressing the stop button, the same numbers, characters, or pictures are all aligned in the radial direction, and by providing in seven combinations a chance for winning points or a big bonus (a chance to continue playing several games without inserting coins) when all of the numbers are aligned in the radial direction, or when the same numbers or pictures are all aligned in the radial direction when a jackpot (lamp placed in the center) is blinking.

#### (Means Used to Solve the Problems)

Three donut-shaped disks that are in a concentric relation and face the player are constituted so as to be able to rotate independently and to be stopped independently by pressing stop buttons, a lamp is placed in the center of the disks so as to be able to flash independently, each disk is divided in the radial direction so as to form nine cells, and patterns consisting of one type of number and letter and five types of pictures on each cell are displayed in a fixed order in mutually opposing directions for the cells on the outside disk and cells on the inside disk (basic form); also, each pattern is replaced in order in positions separated by  $120^{\circ}$  (applied form).

When the disks have been separately stopped, among the aforesaid seven types of pattern, a chance (coin payback) for winning where the same types of pattern are all aligned in the radial direction is provided. Also, when all of the character patterns or fixture patterns are aligned in the radial direction and when the aforesaid lamp (jackpot) provided in the center of the concentric circle of the disks is blinking by automatic control, or when all of the number patterns are aligned in the radial direction, the aforesaid big bonus chance is provided. Moreover, a big bonus is offered several times, and a display part showing the number of big bonuses and the usage status of the big bonuses is provided on a suitable area of the machine.

Detailed rules such as the determination of the number of coin paybacks according to each pattern can be set as desired.

#### (Operation)

The three disks having patterns of numbers, letters, or pictures

displayed respectively in nine cells are rotated independently and are stopped separately according to the will of the player. When patterns are radially aligned, coin payback is performed, and when multiple patterns are radially aligned and the jackpot lamp is blinking, when character patterns or picture patterns are radially aligned, a big bonus is provided.

The usage status of the big bonus and the number of big bonuses are displayed in the display part.

(Working Examples)

As shown in Figure 1 and Figure 2, three pipes, (1, 2, and 3) that are able to rotate independently are triple-inserted, the two ends of the pipe (1) having a small diameter are supported by means of bearings (5) provided on the machine stand (4) of the slot machine, the two ends of the middle diameter type (2) by bearings (6), and the two ends of the large diameter pipe (3) by bearings (7), respectively.

The donut-shaped disk (8) is fixed to the end of the pipe (1) facing the inner face of the front panel (4a) of the machine stand (4), the donut-shaped disk (9) to the end of the pipe (2), and the donut-shaped disk (10) to the end of the pipe (3), and circular gaps (11) and (12) are placed at the boundaries between the disks so as to prevent interference.

A gear (13) is fixed to the back end of the pipe (1), a gear (14) to the back end of the pipe (2), and a gear (15) to the back end of the pipe (3). A pinion gear (16a) of the motor (16) and the gear (13) are engaged, a pinion gear (17a) of the motor (17) and the gear (14) are engaged, and a pinion gear (18a) of a motor (18) and the gear (15) are

engaged.

A lamp (19) is mounted in a position corresponding to the front end of the pipe (1) on the front panel (4a) of the machine stand, and forms a jackpot lamp which is connected to an IC circuit and is made to blink automatically.

A coin insertion slot (20) is placed in a suitable location on the left side of the front panel (4a), and three stop buttons (21) are each placed in positions directly below the center disk (8). An illuminated display part (22) (Figure 3), which shows the number of big bonuses and the big bonus usage number, is placed in the position directly above the outermost disk (10), a start button (23) is placed in a suitable location on the left side, and a coin receiving dish (24) is placed below the front panel (4a).

The disks (8, 9, and 10) are divided into nine cells in a radiating form from the center, and on each cell a number pattern (25) having the numeral 7, a character pattern (26) having the alphabetical characters BAR, a picture pattern (27) showing a star, a picture pattern (28) showing a peach, a picture pattern (29) showing a grape, a picture pattern (30) showing an orange, and a picture pattern (31) showing a strawberry are displayed in the respective cells.

The cell pattern of the middle disk (9) is displayed in the opposite rotation from the order of the patterns displayed in the cells of the outside disk (10), and the patterns in the cells of the inside disk (8) are displayed in a rotation opposite the patterns displayed in the cells of the middle disk (9) (basic form).

The numeral 7 is placed in the aforesaid jackpot, i.e., the center

part of the disks, and is illuminated with a lamp (19).

In the aforesaid display part (22), when the number patterns (25) of each disk are arranged radially as shown in Figure 4, or when the jackpot lamp (19) is blinking, when the character pattern (26) or a picture pattern (27, 28, 29, 30, 31) is aligned in a radial form, a big bonus is provided, allowing 15 coins to be paid back and six games to be played in succession. In addition, the big bonus is provided with a limit of three times. Specifically, the rules are made such that the player can receive a maximum payback of  $15 \times 6 \times 3$  coins and can play a maximum of 18 games.

The display part (22) is provided with illumination, and indicates the number of big bonuses by lighting of the character (7), while indicating the number of games presently played by lighting a numeral of 1 through 18.

With regard to the rules for point acquisition, when three of the character patterns (26) of the alphabetical characters BAR are aligned, 15 coins, when three star picture patterns (27) are aligned, 15 coins, when three peach picture patterns (28) are aligned, 10 coins, when three grape picture patterns (29) are aligned, 10 coins, when three orange picture patterns (30) are aligned, 8 coins, and when three strawberry picture patterns (31) are aligned, 8 coins are paid back, and in this way the number of coins paid back can be determined as desired.

(32) represents a counter which displays the coin payback number, and a shadow mask is provided on the front panel (4a) for masking the cells arranged in the radial directions indicated by the arrows (A, B, C, and D) in Figure 2, thus increasing the interest of the game.



In the arrangement of patterns displayed in each cell, as a form of application other than the aforesaid basic form, by substituting the orange pattern (30) on the disk (8) in Figure 1 into the position of the star pattern (27), which is in the position  $120^{\circ}$  from the aforesaid pattern, by substituting the star pattern (27) into the position of the grape pattern (29), which is in a position  $120^{\circ}$  from said pattern, or by substituting the grape pattern (29) into the original position of the orange pattern (30), and similarly substituting the strawberry pattern (31) into the peach pattern (28), the peach pattern (28) into the BAR pattern (26), and the BAR pattern (26) into the original position of the strawberry pattern (31), the game can be made more interesting (Figure 3). Also, all of the aforesaid working examples concern standing type slot machines, but are not limited to this, and can also be used on a roulette type having disks placed in a flat form.

Moreover, the number of disks can be made 2, and the disks can be divided into an odd number of cells such as 7, 9, or 11, and desired numbers, characters, symbols, or signs can be displayed in each cell.

Also, the present invention can be applied in pachinko game machines, etc., in which two disks rotate separately when pachinko balls enter, when patterns are aligned with the disks stop, a specified number of pachinko balls is produced, or when a so-called tulip opens making it easy for the ball to enter.

#### (Merits of the Invention)

By the rotation of flat disks (8, 9, and 10) facing the player, and the stopping of this rotation by the action of the player in pressing stop buttons (21), when patterns are aligned, coin payback can be

enjoyed, and since the flat disks are plainly in the line of sight of the player, the patterns are easy to view.

Also, while the chance of winning is determined by five combinations in a conventional slot machine, this is increased to seven combinations, and in addition, when a big bonus chance occurs three times, the coin payback number can be increased to a maximum of 270, the game playing time is increased, the payback can be increased to a certain extent, and the gambling characteristics are less than in a conventional slot machine where the win or loss is determined in a short time.

(Brief Explanation of the Figures)

Figure 1 is a cross flat-view diagram of the center portion of the present invention.

Figure 2 is a cross-sectional diagram along the line A-A in Figure 1.

Figure 3 is a front-view diagram showing the disks displaying an applied form of each pattern in accordance with the present invention.

Figure 4 is a front-view diagram of illuminated display part showing the big bonus number and usage number in accordance with the present invention.

(Explanation of the Part Numbers)

1 2 3 pipe  
5 6 7 bearing  
8 9 10 disk  
16 17 18 motor  
19 lamp

- 21 stop button
- 23 start button
- 24 coin receiving dish
- 25 numerical pattern
- 26 character pattern
- 27 28 29 30 31 picture pattern

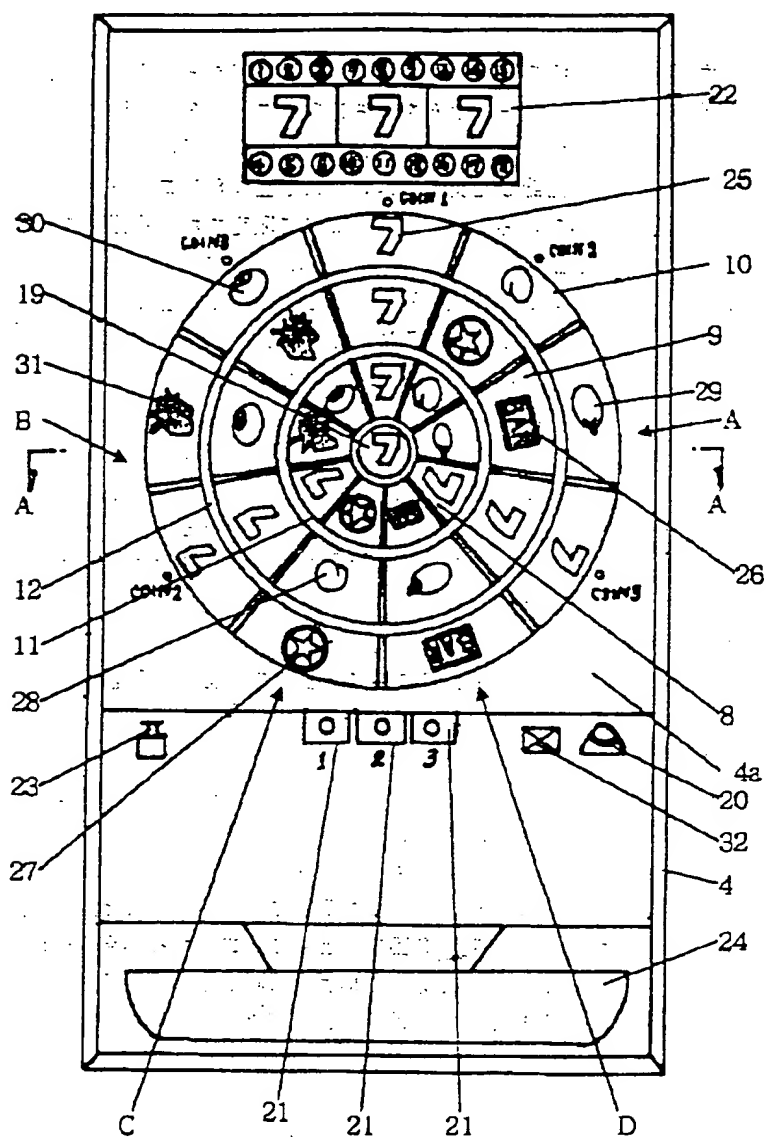


Figure 1

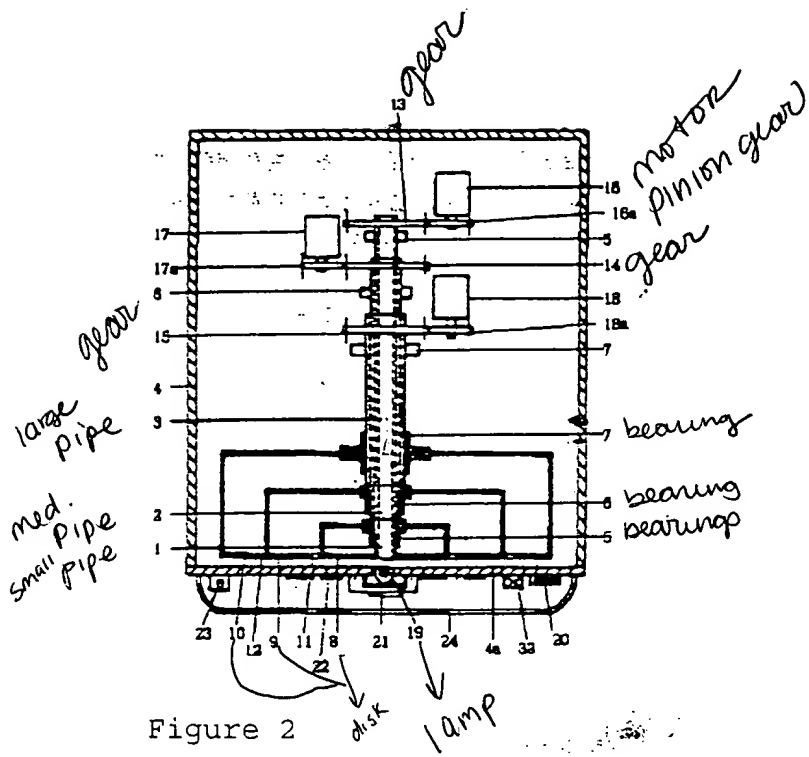


Figure 2

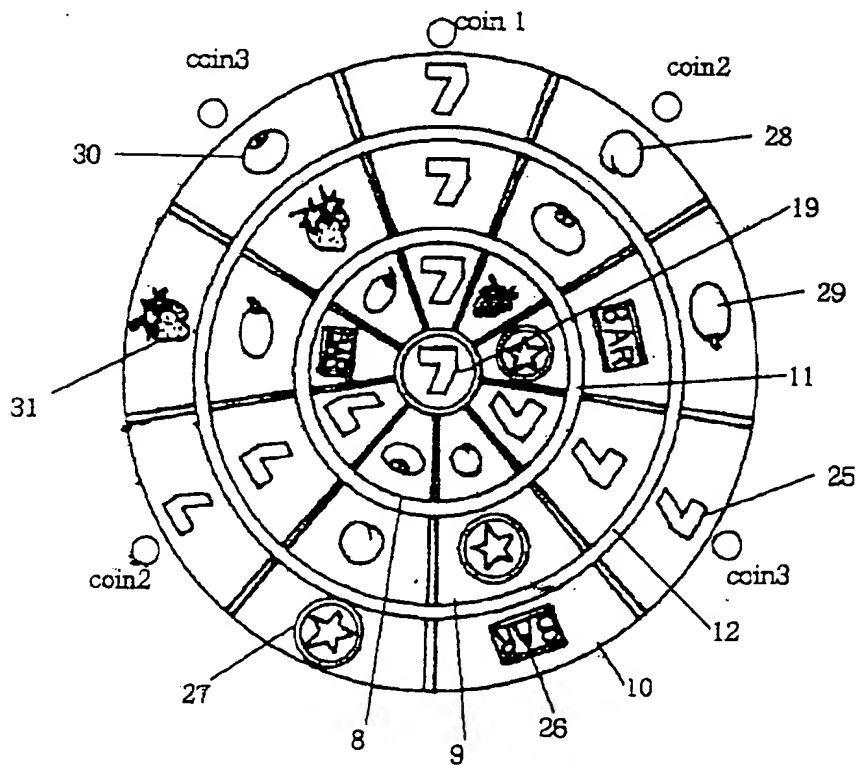


Figure 3

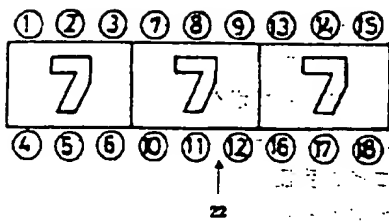


Figure 4

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☒ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**